

FIG. 1

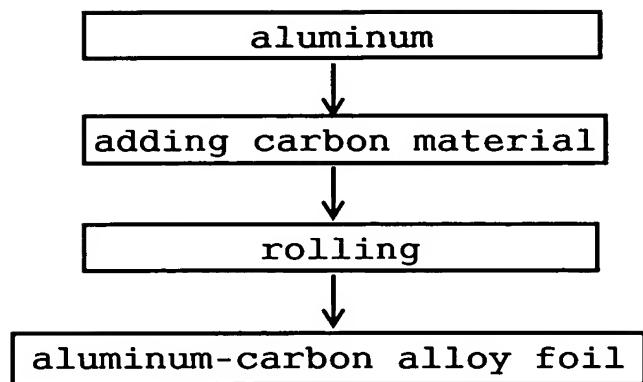


FIG. 2A

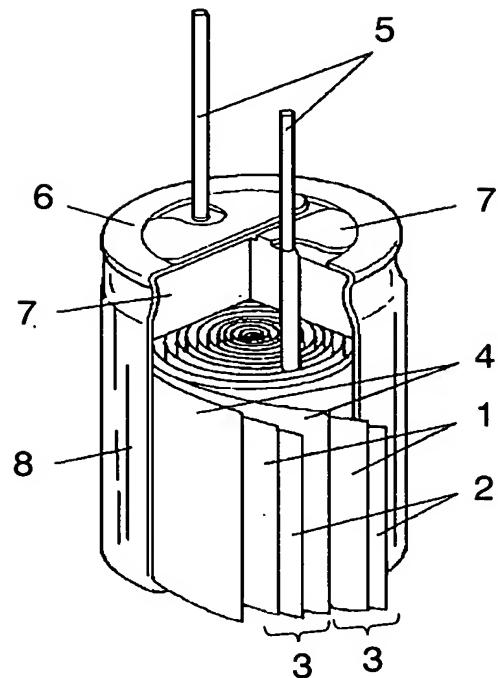


FIG. 2B

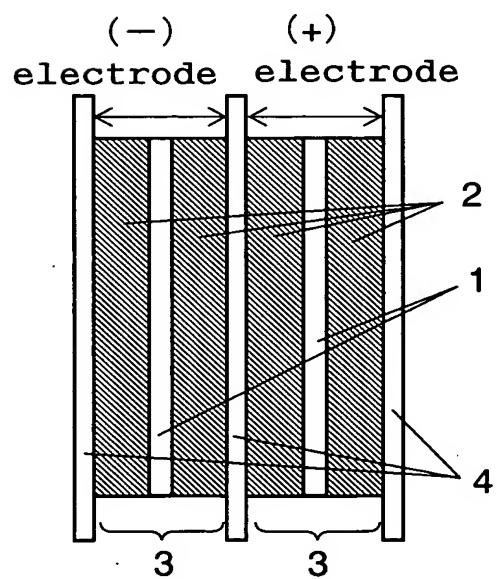


FIG. 3

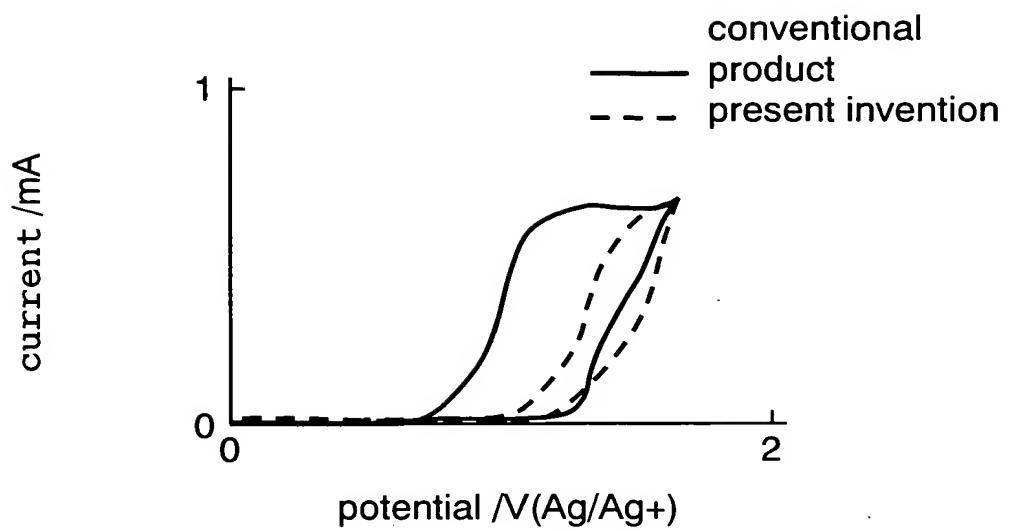
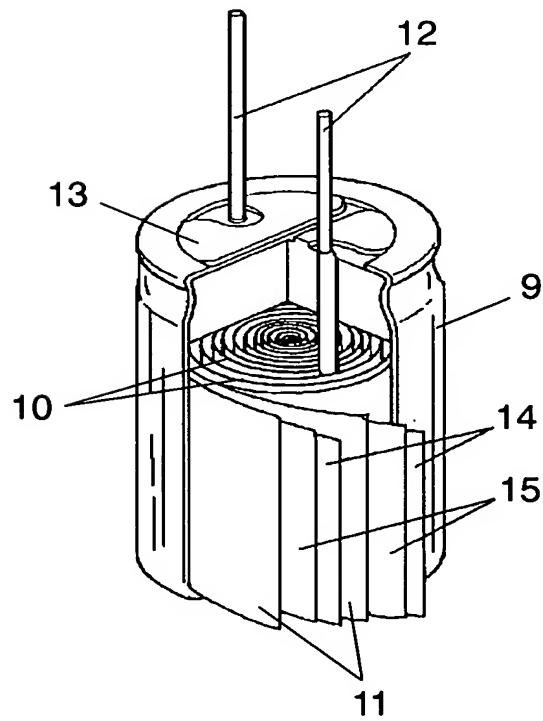


FIG. 4



4/17

FIG. 5

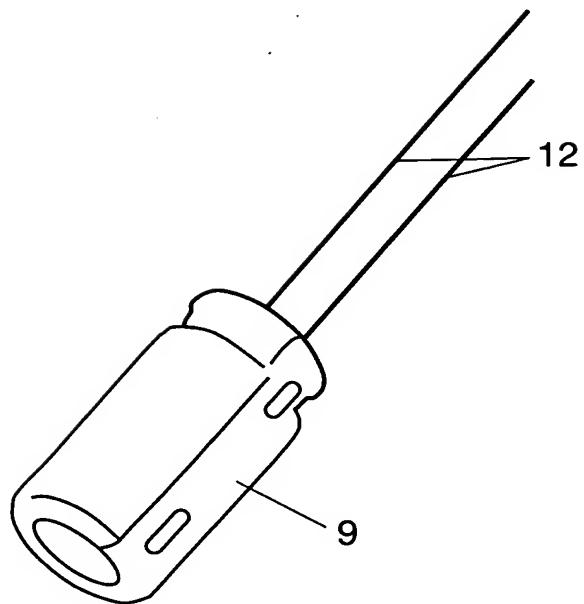


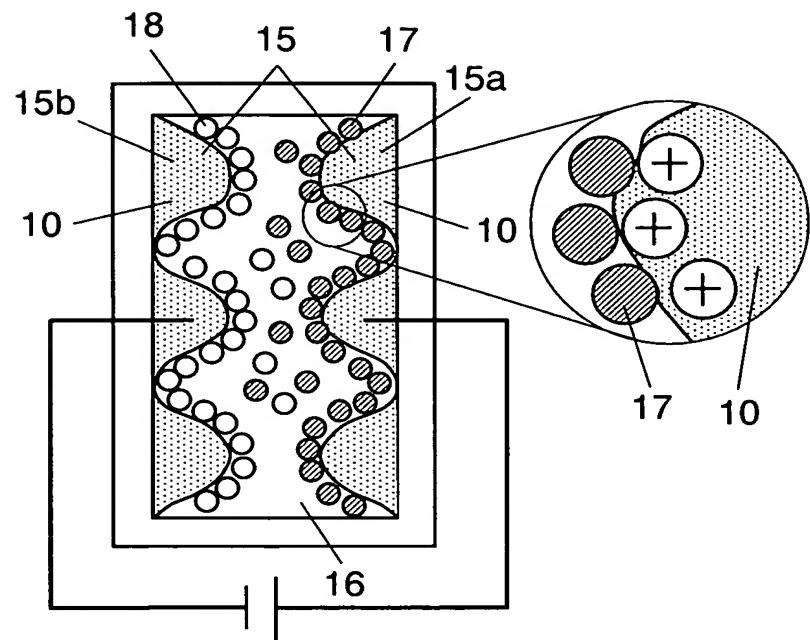
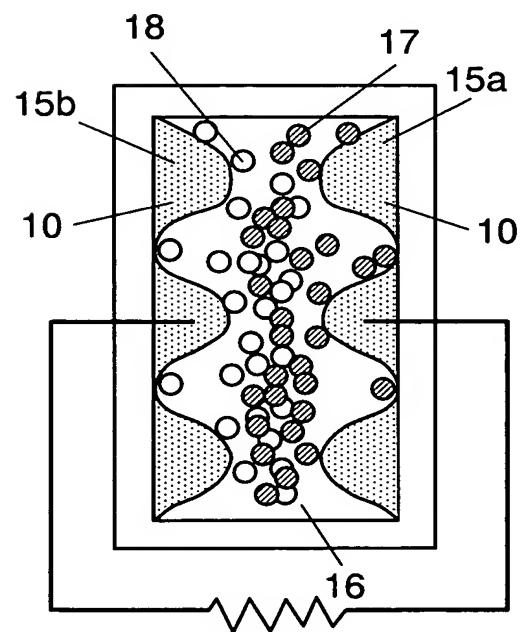
FIG. 6A**FIG. 6B**

FIG. 7A

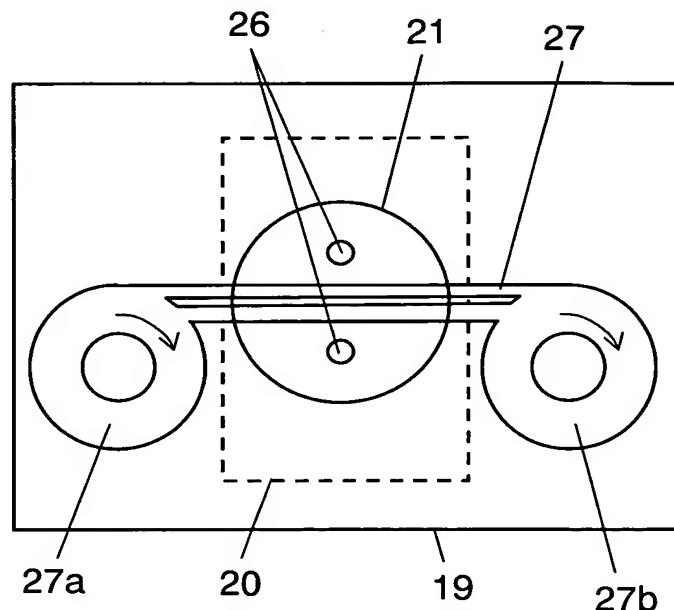
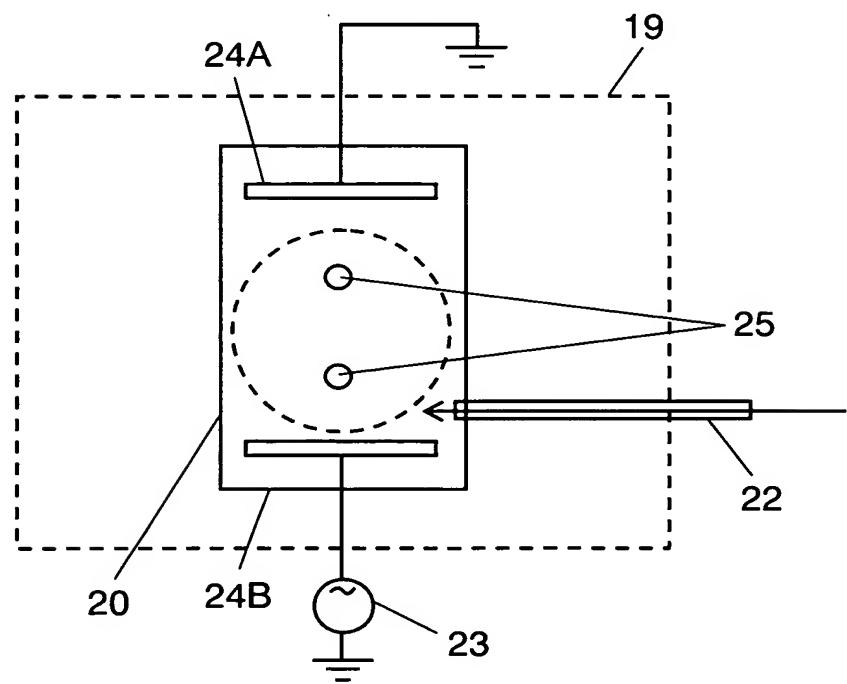


FIG. 7B



7/17

FIG. 8A

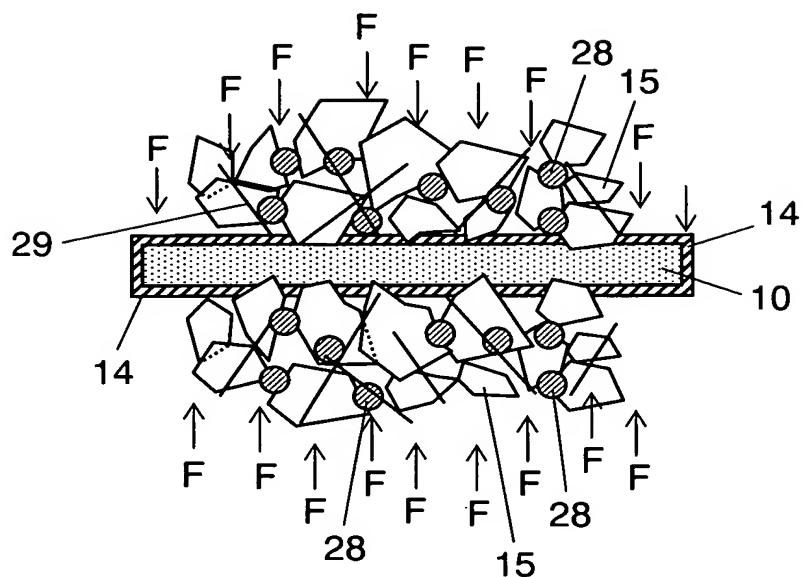


FIG. 8B

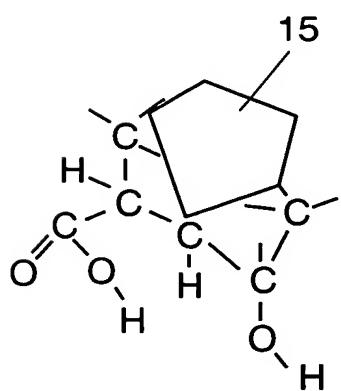


FIG. 8C

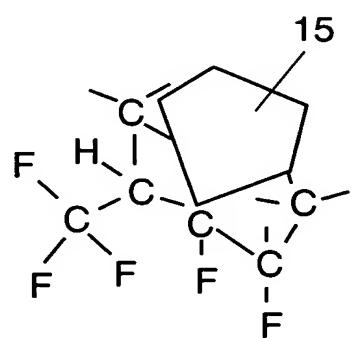


FIG. 9

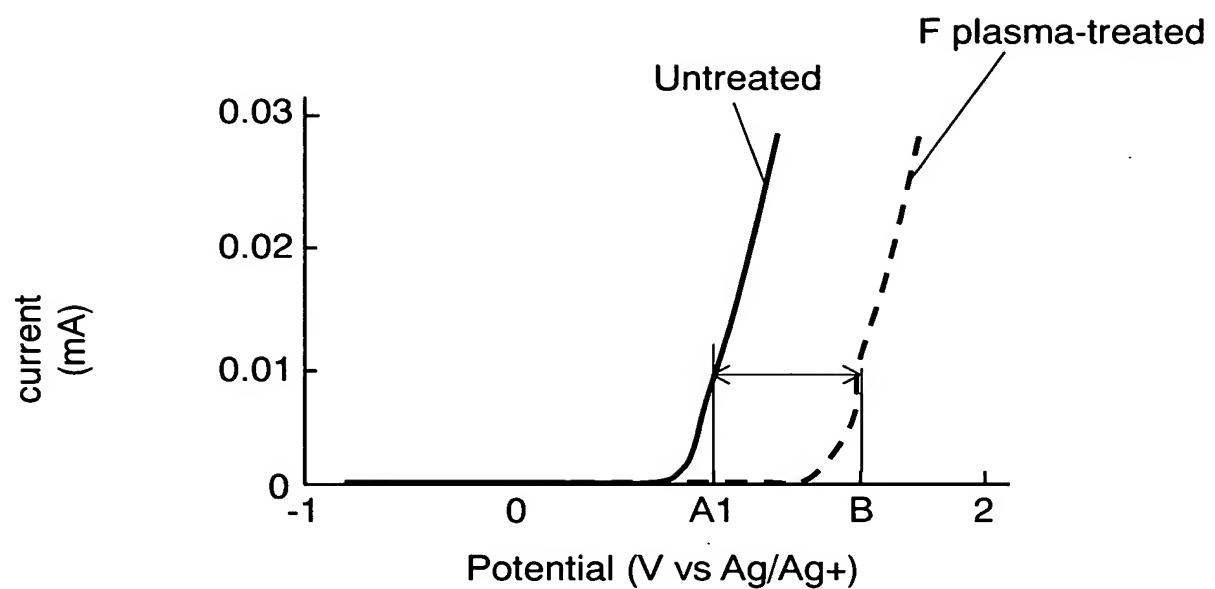


FIG. 10A

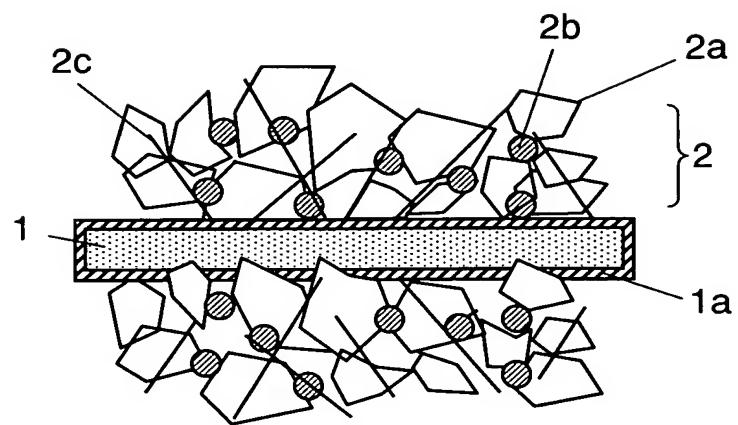


FIG. 10B

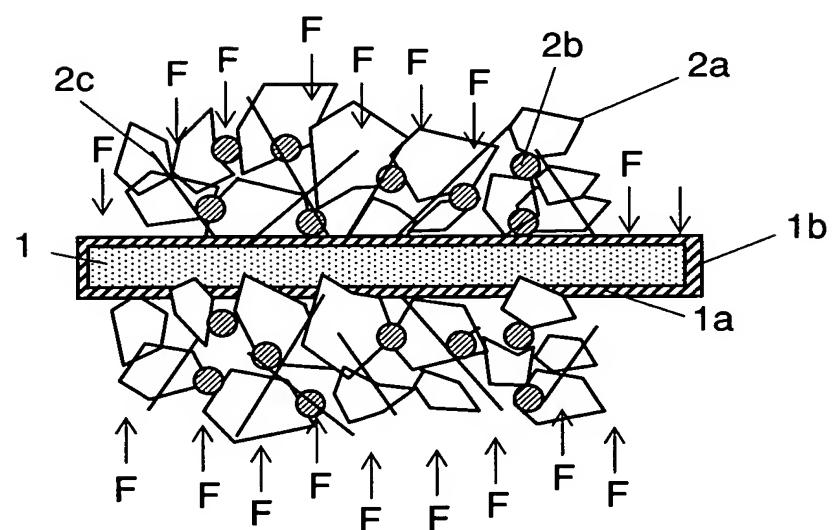


FIG. 11A

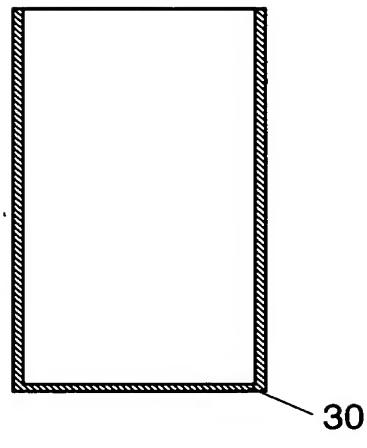


FIG. 11B

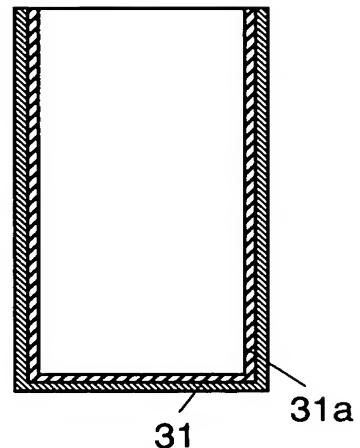


FIG. 12A

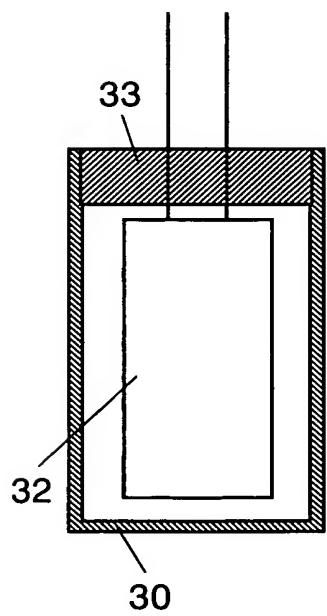


FIG. 12B

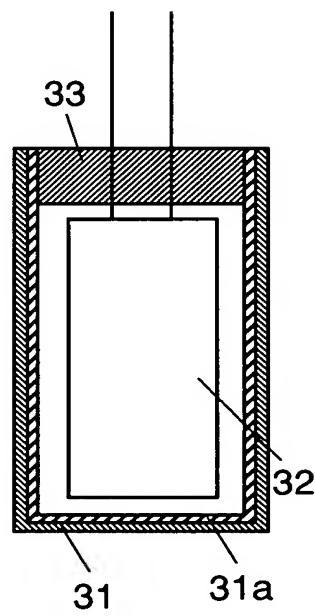


FIG. 12C

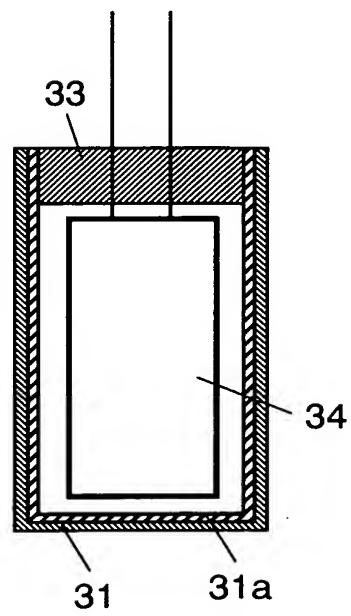


FIG. 13A

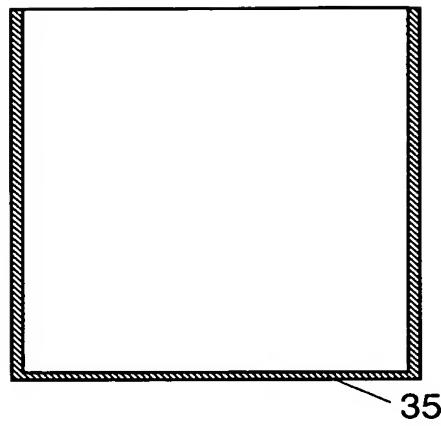


FIG. 13B

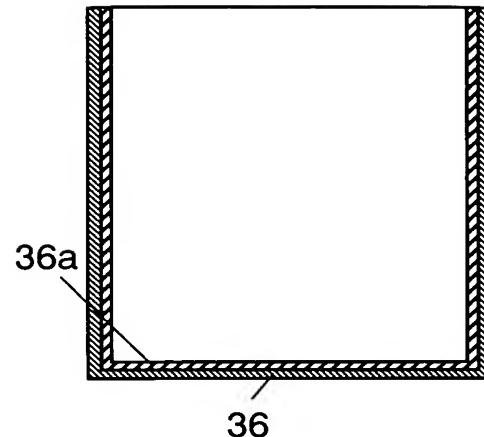


FIG. 14A

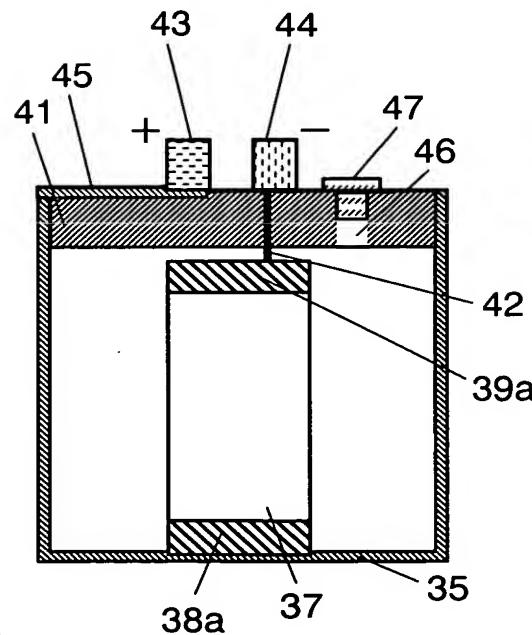


FIG. 14B

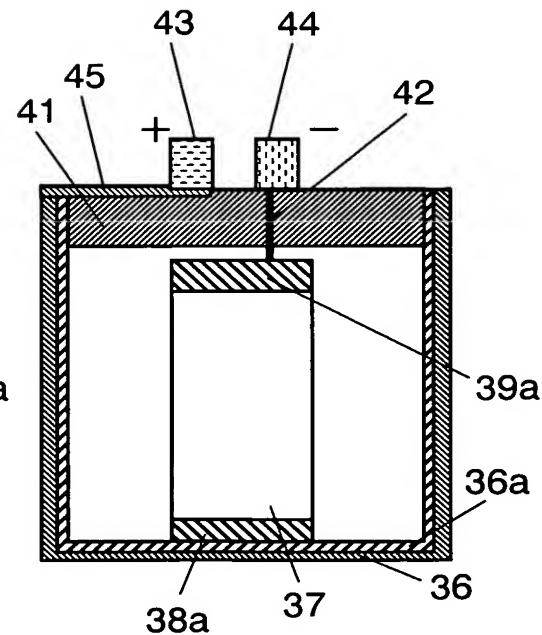


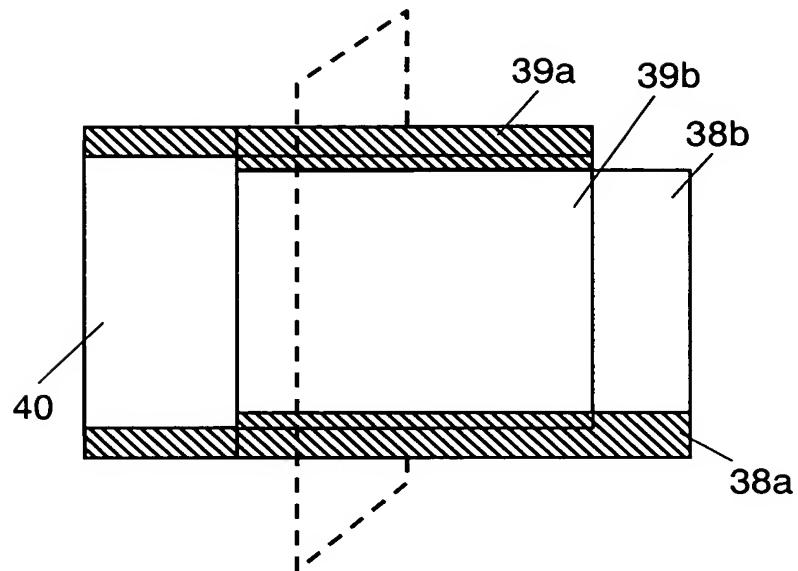
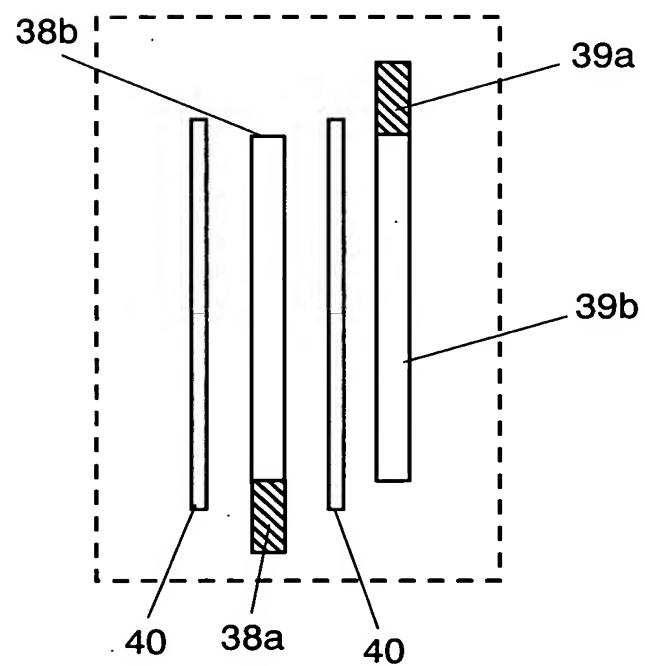
FIG. 15A**FIG. 15B**

FIG. 16

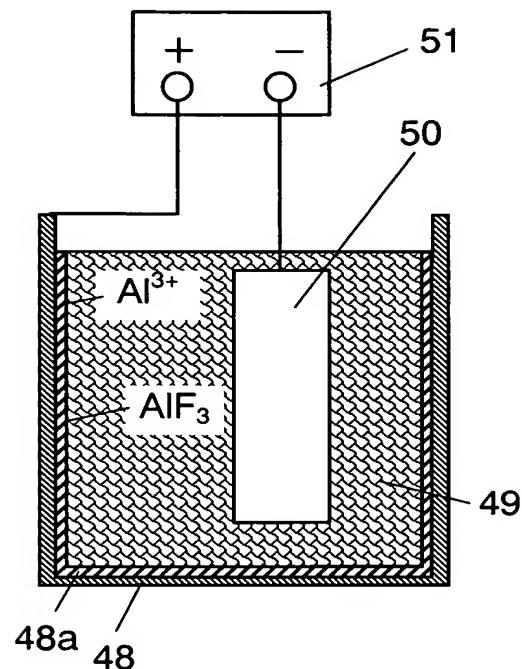


FIG. 17A

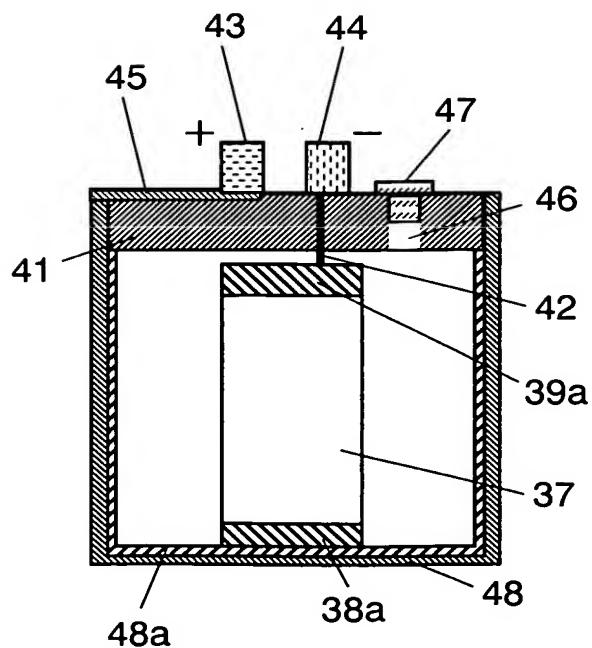


FIG. 17B

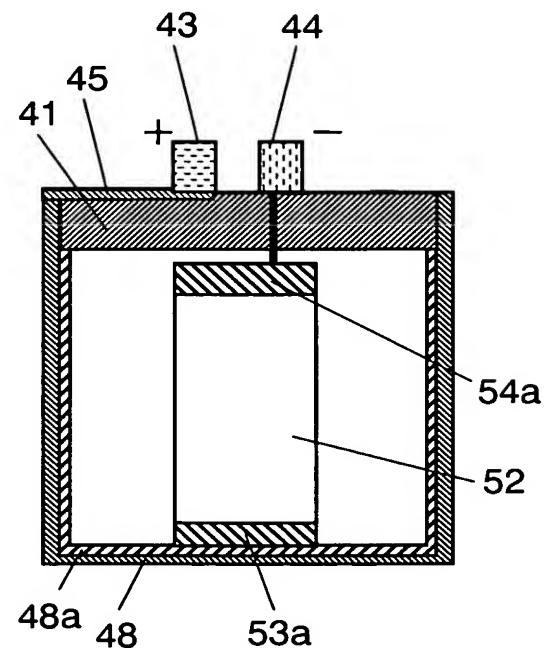


FIG. 18

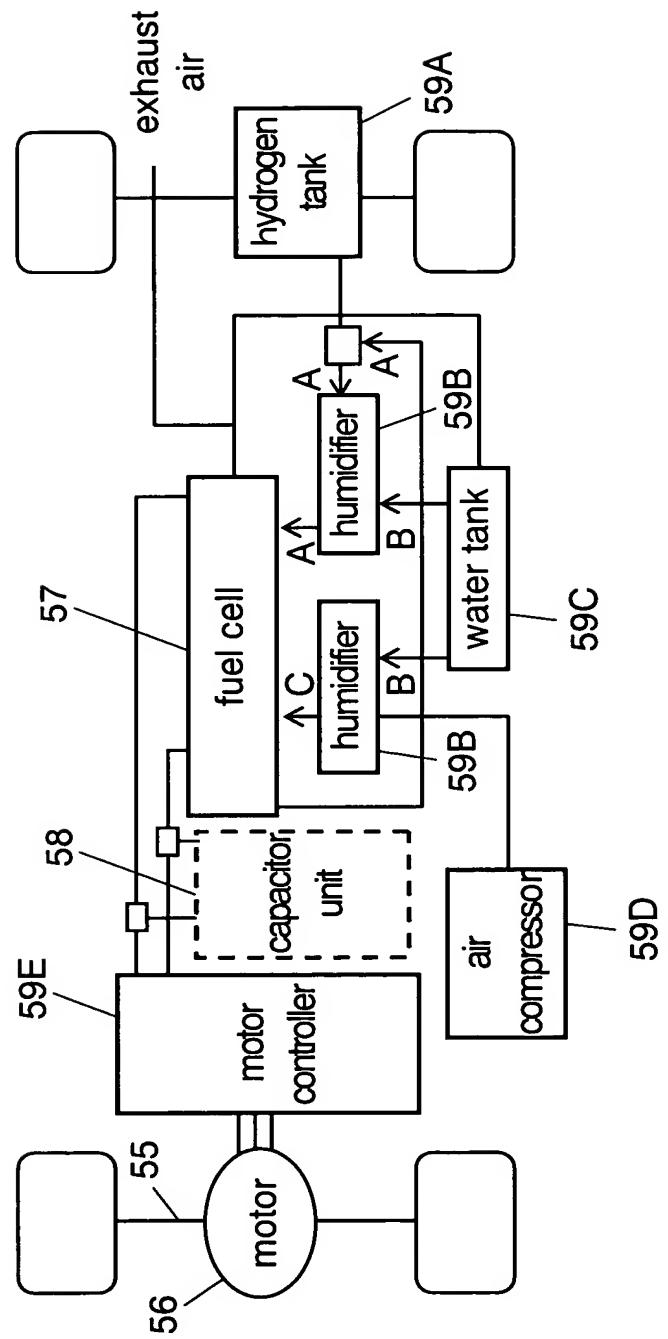


FIG. 19

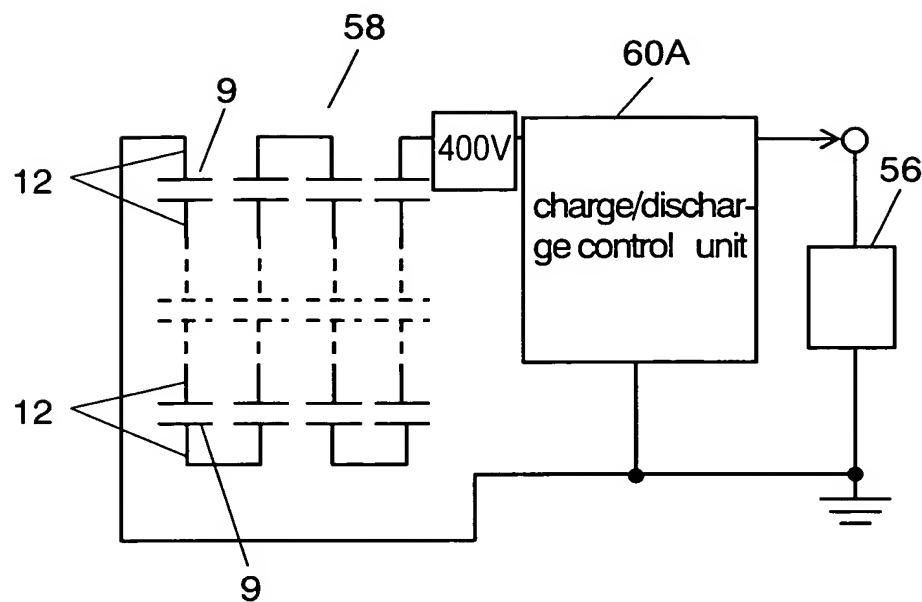
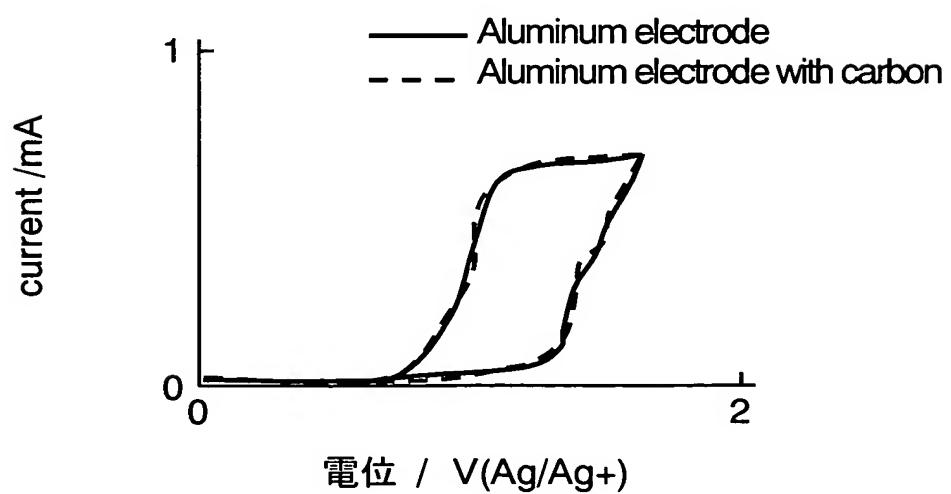


FIG. 20



Reference marks in the drawings

1 collector having an Al_4C_3 alloy layer
1a, 1b alloy layer
2 electrode layer
2a, 15 active carbon
2b, 28 conductive additive
2c, 29 binder
3 electrode body
4, 11, 40 separator
5, 12 lead wire
6 ring packing
7 sealant
8, 9, 30, 31, 35, 36, 48 case
10, 27 electrode foil
13, 33 sealing rubber
14 aluminum fluoride
15a anode active carbon
15b cathode active carbon
16 electrolytic solution
17 anion
18 cation
19 plasma treatment chamber
20 plasma generation chamber
21 chamber connection hole
22 gas inlet hole
23 high frequency power source
24A, 24B electrode
25 plasma outlet hole
26 plasma inlet hole
27a untreated electrode foil
27b treated electrode foil
31a, 36a aluminum fluoride layer
32, 34, 37, 52 element
38a, 53a anode current collector
38b anode electrode
39a, 54a cathode current collector

39b cathode electrode
41 sealing member
42 lead plate
43 anode terminal
44 cathode terminal
45 connection bar
46 inlet
47 pressure control valve
49 fluorine-containing solution
50 counter electrode
51 DC power source
55 axle
56 motor
57 fuel cell
58 capacitor unit
59A hydrogen tank
59B humidifier
59C water tank
59D air compressor
59E motor controller
60A charge/discharge control circuit